PROGRESS REPORT OF THE
JULIAN-CUYAMACA INSECT PROJECT
SAN DIEGO COUNTY

COPY

April 7, 1948

To: James K. Mace, Deputy State Forester

From: Neil Rice, Assistant Forestry Engineer

The end of March brought the first major reduction in the insect program of the Julian and Cuyamaca areas, and with it the question of the activities and results to date as well as the program for the remainder of this season and the coming year. Following is a brief report of progress, subsequent to the final two weeks' activities of the current season and the final analysis and reports.

Considering the many adverse phases, the program has proceeded very well and a large amount of satisfactory work has been completed. Various inspections by this Division and the Bureau of Entomology, as well as other agencies and local people and residents, have born out this fact.

Foremost of the causes was occasioned by the lack of sufficient funds at the beginning of the season. When a full crew was needed in November and early December, only twenty per cent of the funds were then available at Julian, and none for Cuyamaca Park. Our full program in Julian did not start until after February 16 of this year when the bulk of the matching funds were made available by San Diego County. By this time, the working season was more than half over. The funds for Cuyamaca Park were obtained even later in the season, after considerable winter activity by insect broods which increased the scope of the project. However, some of this was offset by having the full amount of the allotment available, and timely action in assembling crews all over the State for an intensive program.

Other factors hindering the project were inexperienced help, difficulty in obtaining proper tools such as power saws and keeping them in production, extremely unfavorable weather conditions for treatment and control, and extra work involved in obtaining numberous agreements and cooperation from subdivision owners or in bypassing areas until the owners could be located and agreements obtained. Also more intensive spotting due to the unusual activity of the insects caused by the warm, dry winter was required.

OBJECTIVES:

Despite the difficulties involved, the primary objectives of the program have been followed at all times; namely,

(1) To stop the present epidemic infestation of pine beetles at lowest possible cost.

(2) To protect the remaining stands of pine in the area.

In view of keeping to our first objectives, the paid crews were selected from the most economical source available to us; namely, men from TAU and

permanent driver lists, their being no labor or woods worker lists available. These rates conform closely to the pay rate for this particular type of work. Supervision costs, as well as foremen, equipment operators, etc., were not charged directly against the allotted funds. Also equipment and tools were supplied from existing sources to the fullest extent possible.

FIELD OPERATIONS:

Julian

The scope of this infestation precluded the complete coverage with available funds. The work, therefore, was started in the subdivided areas rather than on a plan of beginning at a boundary and working straight through. There were two main reasons for this. First, that of an obligation to work in areas where the bulk of contributions had been made, and, second, that favorable work in these areas would have the desired effect in furthering our program toward possible additional matching funds from land owners as well as securing good public relations.

Work was first started in the Whispering Pines subdivision, and with the completion of this continued in the Pine Hills subdivision. With the increase in funds and crew, the area immediately adjacent to Julian and north of town was included and was extended south through the Kentwood subdivision and on toward the State Park boundary to the south. Work had been completed around the town and the Kentwood areas by the close of March.

Cuyamaca

Inspections early in the program by Messrs. Struble and Patterson of the Bureau of Entomology indicate that control work in the East Mesa area of Cuyamaca Park was not necessary because of many factors other than insects on this marginal site that were causing the killing of pines. This allowed the work to be concentrated on the west and north sides of the Park under closer supervision and with much less travel time. This reduction by nearly 200 trees of the anticipated work load is the main reason in being able to cover so much of the Park area this season with the available crew and funds.

SPOTTING:

The standard strip spotting and mapping ahead of the treating carried on early in the training phase has been abandoned in favor of spotting immediately ahead of the treating crews. The nature of the terrain, small ownerships and subdivisions, and use of large scale aerial maps loaned by the Soil Conservation Service have made this topographic spotting possible. Also due to dry, warm conditions and activity of insects throughout the winter, it was necessary to check more often and thus work closer with the treating crews when spotting. Spotting records and maps, however, were kept in much the same manner as previous projects and on Forest Service forms.

Total trees spotted through March:

1. Julian 2,108
2. Cuyamaca 432

TREATING:

With but few exceptions the treating in both areas has been by piling and burning. Only about 15 gallons of insecticides have been used to date and 5 trees treated in this manner.

The treating through March is as follows:

	Julian	Cuyamaca
Acreage	2,537	4,497
Total Trees	2,068	399
Total Man Days Treating	641	124
Average	3.2	3.2

The small acreage in the Julian zone is due to the concentration of trees in the small subdivision areas.

The number of trees included were all sizes from poles up to 52" DBH. However, the majority of trees are in the 12" to 20" range.

Burning was somewhat of a hazardous problem at various times during the winter due to sudden east winds drying out the leaves and top soil layers shortly after rains. However, constant care was exercised at all times and no damaging fires resulted.

SUMMARY:

Julian

Closing date for this project is scheduled for April 15 of this year. This has been recommended by the Bureau of Entomology and will also be near the limits for our financial resources. By that date, and at the present rate of work, we will have completed somewhat over half this project. The last estimates on the total number of infected trees in the Julian zone placed the figure at between 3,500 and 4,000. Our present effort has removed only about half of this number, and after April 15 there will still be upwards of 1,500 untreated trees remaining in the area. This together with possible developments through the coming summer definitely makes this still a major control problem.

Any work carried on in the future should be with ample manpower, equipment, and funds at the earliest convenient date in the fall to successfully complete all aspects of the project during the winter work season.

A major item to consider for the coming year is the problem of agreements. During the past season approximately 60 man days of time were used in securing some 230 signed agreements, locating true ownerships, etc., all by personal contact, in addition to the office work of typing and mailing out hundreds of letters and agreement forms. To offset loss of time in bypassing property not covered by agreements, an effort should be made to obtain these agreements through the summer period. Also, since the present agreements terminate on June 30 of this year, some arrangement should be made to extend these by blanket order for another year in order to facilitate a follow-up program.

Cuyamaca

Our work in Cuyamaca Park, despite the late start, bad weather, and other

obstacles, has been much more satisfactory and nearly complete from the standpoint of total coverage. By concentrating the effort on the north and west sides of the Park and not going into the east Mesa, we will be able to cover the entire infested area by April 15. There will undoubtedly be other fades later in the season, and possibly some new attacks this summer that will require a follow-up program next season, but this will in no way be a reflection on our work there this season.

The Division of Parks has cooperated well in giving us what equipment and assistance they could. However, it should be pointed out that any follow-up program for the future should be so organized and financed as to be able to start control work at an early date in the fall.

Attached also are statements of balances of funds up to the end of March for both projects together with the progress map.

/s/ N.R.
Neil Rice
Assistant Forestry Engineer

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APPROXIMATE BALANCES END OF MARCH, 1948

JULIAN ZONE

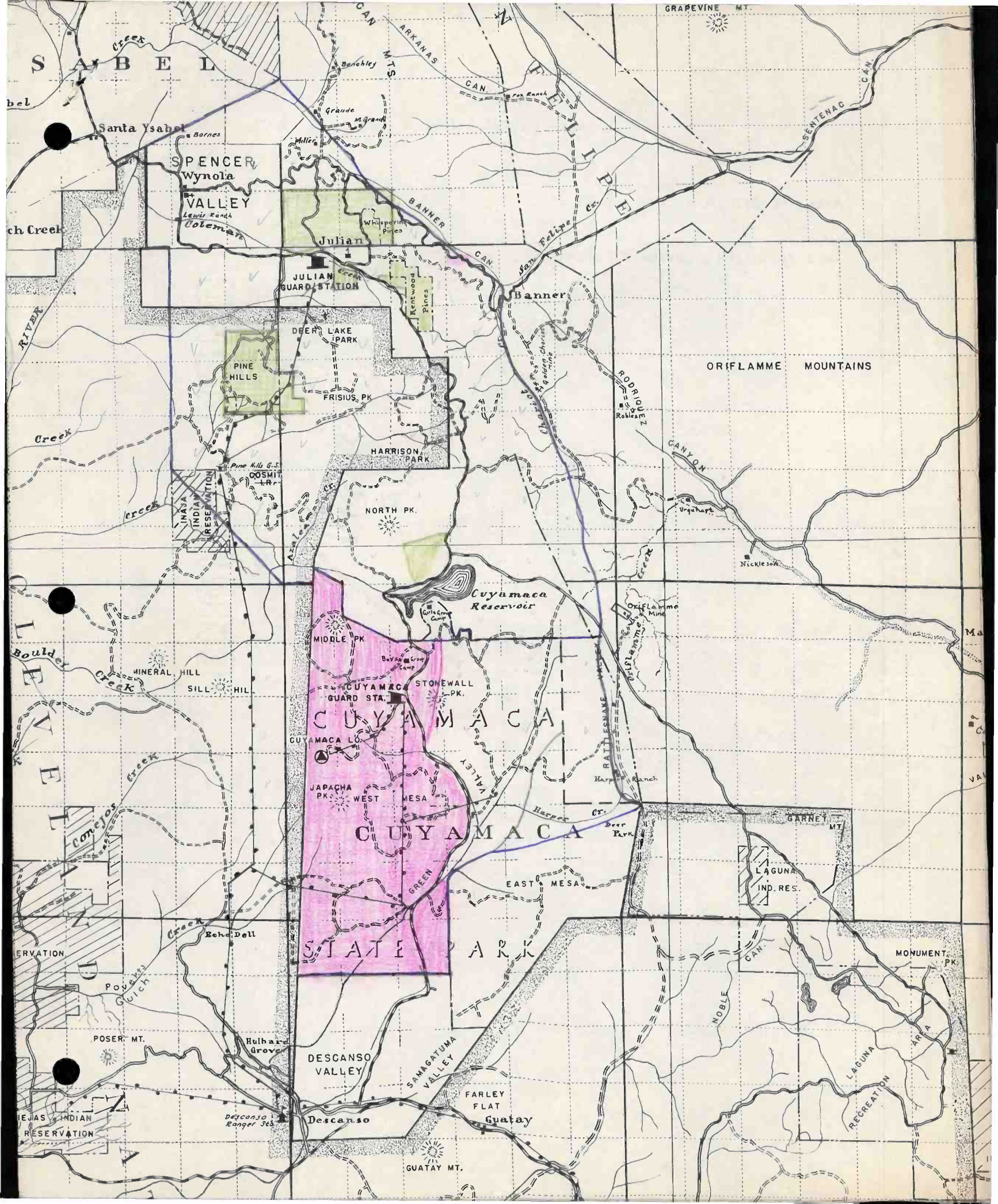
Object of Expenditure	Allotment	Expenditures	Balance
Auto P & S	$ 300.00	$ 100.00	$ 200.00
Field Maintenance	450.00	255.44	194.56
Field Service	200.00	151.19	48.81
Gas, Oil, Tires	600.00	408.40	191.60
Maps	100.00	10.00	90.00
Printing	100.00	..00	100.00
Salaries and Wages	6,000.00	4,522.06	1,477.94
Subsistence	2,100.00	955.00	1,145.00
Tel. and Tel.	100.00	.00	100.00
Travel	50.00	.00	50.00
Total	10,000.00	6,402.09	3,597.91
Salaries and Wages 4/1 to 4/15/1948		$1,003.37	

The above objects of expenditure show the new amounts after transfers in subsistence, travel, field, maintenance, telephone, and gas and oil have been made.

CUYAMACA STATE PARK

Object of Expenditure	Allotment	Expenditures	Balance
Auto P. & S.	$ 200.00	$ 150.00	$ 50.00
Field M. & S.	650.00	602.84	47.16
Field Service	50.00	.00	50.00
Gas, Oil, Tires, & Tubes	700.00	582.67	117.33
Maps & Printing	50.00	35.00	15.00
Salaries & Wages	5,500.00	3,766.09	1,733.91
Subsistence	1,900.00	1,051.00	849.00
Travel	950.00	500.00	450.00
Total	$10,000.00	$6,687.60	$3,312.40

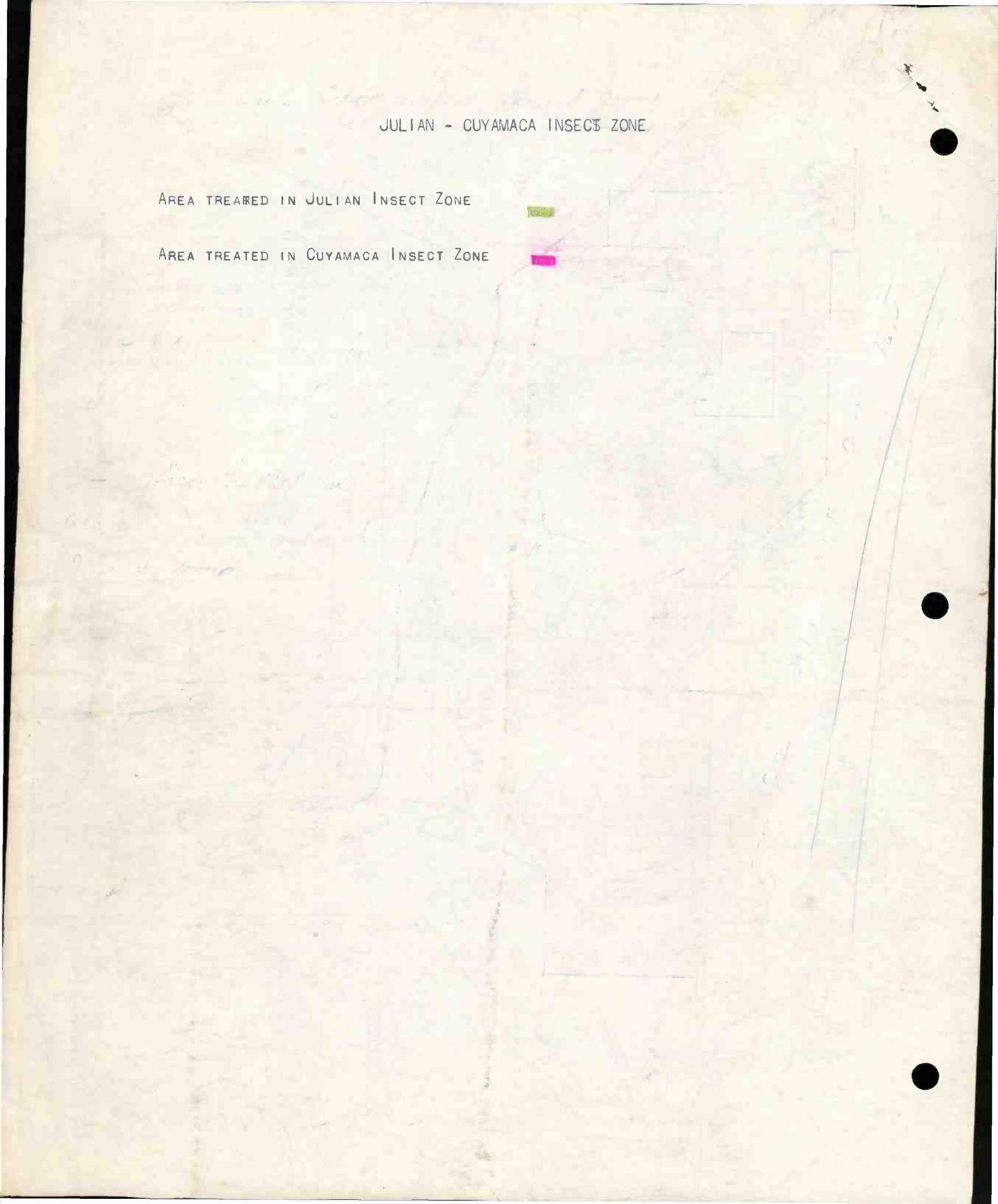
The above figures include travel and transportation for crews from other districts.


GRAPEVINE MT.
SABEL
Creek
Santa Ysabel
Barnes
SPENCER
Wynola
VALLEY
Lewis Ranch
Coleman
Berckley
Grande
M. Grande
Miller's
CAN
ARKANAS
MTS.
Fox Ranch
FELIPE
SENTENAG
CAN.
BANNER
Whispering Pines
Julian
JULIAN GUARD STATION
San Felipe Cr.
Banner
Redwood Pines
DEER LAKE PARK
PINE HILLS
FRISIUS PK.
ORIFLAMME MOUNTAINS
Golden Chariot
RODRIGUEZ
Robles
CANYON
HARRISON PARK
Pine Hills G.S.
COSMIT
INAJA INDIAN RESERVATION
NORTH PK.
Azalea Cr.
Urquhart
Nickleson
Cuyamaca Reservoir
Girls Camp
Oriflamme Mine
Oriflamme
MIDDLE PK.
Boy Scout Camp
MINERAL HILL
SILL HIL
CUYAMACA GUARD STA.
STONEWALL PK.
CUYAMACA
CUYAMACA LO
Boulder Creek
LEVELAND
Conejos Creek
JAPACHA PK.
WEST MESA
VALLEY
RATTLESNAKE
Harper Ranch
Harper Cr.
Deer Park
GARNET MT.
LAGUNA IND. RES.
EAST MESA
GREEN
STATE PARK
Echo Dell
Poverty Gulch
MONUMENT PK.
NOBLE CAN.
POSER MT.
Hulbard Grove
DESCANSO VALLEY
SAMAGATUMA VALLEY
FARLEY FLAT
Descanso
Descanso Ranger Sta.
Guatay
GUATAY MT.
LAGUNA RECREATION AREA
IEJAS INDIAN RESERVATION

JULIAN - CUYAMACA INSECT ZONE

AREA TREATED IN JULIAN INSECT ZONE

AREA TREATED IN CUYAMACA INSECT ZONE



E. Engen

Statistical Summary of Emergency Insect Control Project in The Julian-Cuyamaca Area of San Diego County

Table 1 Agreements

Cooperator Group ***	Acreage Involved	Number of Cooperators	Cooperators Contribution
Whispering Pines	160	86	$ 172.00
Pine Hills	1120	65	1120.00
Julian Pines	80	26	40.00
Kentwood	300	19	35.00
Julian Townsite and Acreage	1290	38	923.00
North Peak	250	2	210.00
San Diego County	-	-	$ 2500.00
Tptals	3200	236	$ 5000.00

"dollar for dollar basis ", The State of California matched on a all funds contributed by the private land owners and other agencies. Monetary figures listed above are those actually contributed by the cooperators.

Table 2 Spotting

Spotting Phase	No.Men	Man Days	Total Trees
Training	11	59.5	45
Strip Spotting	-	-	-
Topographic or Group Spotting	2	16.5	2249

The only strip spotting that was carried on was that done as a part of the training program. Terrain, time, men

available for spotting, and the availability of the road net in the summer homesite areas as guide lines prompted switching from strip spotting to topographic or group spotting;

The average number of trees and poles spotted per man day is 136.3 . Due to the nature of the spotting, a cost per acre figure would not be a true one but a cost per man day figure of $12.75 may be arrived at based on wages to spotters of $255.00 per month.

Table 3. Direct Control(Falling as aPart of Treating)

Month	Man Days Trim&Fall	Poles	Trees	DBH Class of Trees 10	12	14	16	18	20	22	24	26	28	30	32	34	over
December	24.25	47	72	5	18	10	7	14	13	1	1	1		2			
January	85.0	324	211	39	50	34	29	21	16	8	5	4	2	3			
February	74.87	157	187	41	41	16	28	15	12	13	5	4	3	3	3		3
March	136.25	746	299	29	74	53	41	32	31	17	9	3	3	2	2	3	
April	59.75	54	152	14	31	17	18	18	16	14	4	1	10	6		3	
Total	380.12	1328	921	128	214	130	123	100	88	53	24	13	18	16	5	6	3

Average number of trees and poles fallen per man day--5.90

Average diameter of trees fallen(Basal Area method)--15.6"

Table 4. Time Studies

	Man Hours	Trees and Poles	Ave.Time/Tree
1.Treating Burning	1103	2190	.50 hrs.
Spraying	38	25	1.52 hrs.
2.Falling and Limbing	3041	2294	1.32 hrs.

Table 5. Equipment Summary

Total vehicular miles on project--7107

Total hours operation HD-7 tractor--85:30

Total hours operation HD-10 tractor--165:00

Total hours chain saws operation--302:30

Table 6 Labor Distribution
(Assigned and Unassigned Personnel)

Function	Man Hours	Per Cent of Total
Office	173	2.8
Spotting	132	1.6
Burning	1103	13.6
Spraying	38	.5
Trimming and Falling	3041	37.4
Cooking	488	6.1
Supervision	1003	12.5
Repair and Maintenance	146	1.7
Training	1895	23.6
Transportation	20	.2
Total	8039	100.0

Training includes all persons in the fire control class not assigned to the project.

Table 7 Labor Distribution
(Assigned Personnel Only)

Function	Man Hours	Per Cent of Total	Wages Cost
Burning	785	20.0	$ 1064.90
Spraying	34	.9	47.92
Trimming and Falling	2526	63.8	3397.04
Cooking	488	12.4	660.24
Rep air and Maintenance	114	2.9	154.42
	3947	100.0	5324.52

Total wages cost for deach operation was arrived at by prorating the total wages paid on the project.